be harboured for as long as sixty-nine days it is easy to understand how quarantines may be passed and apparently inexplicable outbreaks may occur.

The question arises as to whether in practical administration it is possible to examine the rectal contents of all immigrants before allowing them to proceed to their destination. This has been done partially both in Egyptian and in American administration, and on a small scale this application of Koch's discovery in 1883 of the comma-bacillus of cholera is practicable. On a large scale it fails, for reasons which need not be amplified here.

In actual fact the wisdom of the English system of trusting to medical inspection and detention of actual patients and suspected patients at the port of entry, and of trusting still more to the local sanitary machinery in each division of the country, has been justified by long experience. Quarantine is an elaborate system of leakiness, as has been shown by the experience of all invaded countries. In 1831 every country in Europe was invaded by cholera despite all efforts to keep it out. In 1849, 1853, and 1865–66 this experience was repeated in England, though on these occasions no attempt hermetically to seal the ports was made.

It took Simon and his colleagues in the Privy Council, the Board of Health, and the Local Government Board, the successive central health authorities of England, twenty-five years to make any impression on other countries in favour of the abolition of the futile and oppressive measures of quarantine, and the substitution of medical inspection for detention, followed by local supervision; but these principles have now become generally adopted in settled countries with adequate sanitary administration, and it has become recognised that trust in quarantine gives a false security, and, furthermore, delays the adoption of the internal measures of general sanitary administration both as to *personnel* and water supplies, on which reliance must chiefly be placed.

There need be no fear of a serious outbreak of cholera in this country, even if occasional cases of the disease evade the meshes of medical inspection and supervision. Such exceptional cases might by personal infection or by infecting articles of food even produce small local outbreaks; but this is unlikely, and if it should occur public health administration in every part of this country is equal to the task of suppressing an outbreak, whether of cholera, or typhus, or small-pox.

The Human Factor.

An Introduction to the Psychological Problems of Industry. By F. Watts. Pp. 240. (London: George Allen and Unwin, Ltd., 1921.) 12*s.* 6*d.* net.

THE fact that our industrial system has a human, as well as a material, side has been brought prominently into view in recent times, and it is beginning to be recognised clearly that no perfect or satisfactory industrial system can be attained along the road of purely material progress. Hence industrialists all over the world who have hitherto had their eyes turned wholly on physical science as the main source from which contributions to industrial progress were to be expected are now turning their eyes towards the sister science of psychology so long neglected and misunderstood. Fortunately, the latter science has, within the last generation, been developed in a direction and to a point which make it possible for the psychologist to meet—at least partially—the claims thus coming upon him from a new quarter. Psychology, no longer the science which confines its study to mental process in the individual mind, but the science which studies the behaviour of all living organisms, is now fully conscious of its practical significance and of its duty to the worker in every sphere of activity.

This changed outlook, both in industry and in psychology, is exemplified by the work of the scientific-management engineers, on the one hand, and the number of recent books on industrial psychology written by professed psychologists on the other. Münsterberg, Swift, Hollingworth, Myers, Muscio, and others have already produced a fairly extensive literature in this new field. The latest book of this kind, and one of the most interesting and suggestive, is Mr. Frank Watts's "Introduction to the Psychological Problems of Industry." While generally similar to the other existing books on the same subject, Mr. Watts's work has also certain important characteristics of its own which are worthy of something more than mere passing notice.

The chapter headings indicate the line of thought pursued—"The Psychological Point of View in Industry," "Industrial Fatigue and Inefficiency," "Vocational Selection," "Industrial Unrest," and so on. It will be noted that the author by no means confines himself to the various problems of the factory which can be experimentally studied by the methods of the experimental laboratory. In fact this, the chief part of most other works on the same subject, is a

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relatively minor part of the book before us. Vocational selection, for example, is treated very briefly and, on the whole, rather slightingly. This is really the only serious blemish on a valuable piece of work, a blemish which is scarcely removed by a promise in a footnote to deal with the subject of vocational selection in another book to be published shortly. This defect is, however, in our opinion, compensated by the very interesting discussion from a psychological point of view of some of the larger and more pressing problems of labour, beginning with chap. v. on "Scientific Management and Labour," and continued in chap. vi. on "Industrial Unrest." the most important chapter in the book.

Mr. Watts has made a serious and, on the whole, very successful attempt to apply the newer psychology of human tendencies and emotions—the psychology of McDougall, Trotter, Freud, and Jung—to the conditions and problems of industrial life. The attempt is all the more deserving of attention because it is the most elaborate attempt that has hitherto been made, in this country at least, though Myers, Muscio, and Tead have all made pioneer journeys into this field. The use made of the Freudian psychology to interpret the phenomena of social unrest is particularly noticeable. The analogy between the individual and society is a very old one, but this is the first attempt we have come across to work out the analogy in any detail in the sphere of psychopathology. It need scarcely be said that due caution must be exercised in such an undertaking, and that the analogy easily breaks down if it is pressed. Nevertheless, Mr. Watts must be congratulated on the skilful manner in which he has carried out a difficult task, and the very important and suggestive results to which he has been led.

Early in the book the author points out that there has been, and is still, a good deal of scepticism about the practical possibilities of psychology, more especially, perhaps, in the sphere of industry. In his opinion this scepticism is due largely to the fact that the psychologist has been "too frequently unwilling to quit the enclosures of a narrow specialism, and adventure into the fields of public controversy, there to pass judgment in his own way on current tendencies in art, religion, industry, and politics." This aloofness from the concerns of practical life can no longer be charged against the psychologist. All kinds of significant developments are taking place at the present time in every direction of practical activity, pointing to a growing appreciation of the practical significance of psychology; but surely the charge against the psychologist is an error. The psychologists of an earlier day, in this as in other countries, have been as ready to express their opinions on the questions of the day as have the representatives of the physical sciences. The real reason for the scepticism is that the older psychology was not capable of throwing any very clear or definite light on practical problems, and practical men are only now beginning to be convinced that the newer psychology is in a somewhat different position. Books like that of Mr. Watts's will give a strong stimulus to the spread of this conviction. From this point of view it is of quite exceptional interest and importance.

J. D.

History of Science in Edinburgh.

Edinburgh's Place in Scientific Progress. Prepared for the Edinburgh Meeting of the British Association by the Local Editorial Committee. Pp. xvi + 263. (Edinburgh and London: W. and R. Chambers, Ltd., 1921.) 6*s*. net.

THE British Association handbook which has been prepared by the Local Editorial Committee differs entirely in scope from what has usually been offered to the members of the Association. With the present high cost of printing it was early decided that it was practically impossible to give anything like a satisfactory presentation of the city as regards its history, its public services, its educational, industrial, and commercial life, and its general plan and architecture, as well as the customary details of the botany, natural history, and geology of the surrounding region. Such a glorified guide-book seemed scarcely called for in a city like Edinburgh, about which so much literature already exists. There is, however, one aspect of Edinburgh life which, as a whole, has been neglected in the many books which have been written concerning the capital of Scotland, and this is the aspect which should appeal especially to members of an Association the aim of which is the advancement of science. It is briefly expressed by the title, "Edinburgh's Place in Scientific Progress."

In this small volume of 263 pages we find a comprehensive epitome of what has been done by Edinburgh men and men trained in Edinburgh schools towards the advancement of science in all its recognised branches. No fewer than twenty-five authors have contributed to the work, each dealing with his or her appropriate section. Of these the majority are connected with the university, either as graduates or members of the teaching staff. A brief glance at the contents will suffice to show the nature of the book.

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